



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/831,662	05/14/2001	Yuji Yoshida	01165.0816	7000

22852 7590 09/08/2003

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER
LLP
1300 I STREET, NW
WASHINGTON, DC 20005

EXAMINER

BOYD, JENNIFER A

ART UNIT	PAPER NUMBER
----------	--------------

1771

DATE MAILED: 09/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/831,662

Applicant(s)

YOSHIDA ET AL.

Examiner

Jennifer A Boyd

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION***Response to Amendment***

1. The Applicant's Amendments and Accompanying Remarks, filed June 5, 2003, have been entered and have been carefully considered. Claims 1 and 3 are amended and claims 1 – 3 are pending. In view of Applicant's Arguments, the Examiner withdraws all 35 U.S.C. 103(a) rejection of claims 1 – 3 as set forth in the previous Office Action. However, after an updated search, additional prior art was found. The invention as currently claimed is not found to be patentable for reasons herein below.

Claim Rejections - 35 USC § 103

2. Claims 1 - 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rock et al. (US 6,116,059) in view of Kimura et al. (US 4,475,330) and Scholz et al. (US 6,159,877).

Rock et al. is directed to a three-dimensional sport medical support spacer fabric (Title). Rock et al. teaches a spacer knit comprising a first fabric layer, a second fabric layer and a resilient yarn interconnecting the two layers (Abstract). The spacer knit is prepared by knitting the fabric on a double-needle warp knitting machine (column 1, lines 65 – 67 and column 2, lines 1 – 5). See Figure 1. Rock et al. teaches that the *stitch yarn* 17 and *backing yarn* 25 of the first fabric layer 13 are made of polyester (column 2, lines 37 – 42). Rock et al. also teaches that one or both of the *lay-in yarns* 25 and 26 of *layers* 13 and 15 (column 3, lines 15 – 18). Rock et al. teaches that elastomeric yarn can be added to the stitch yarn of each layer (column 3, lines 20 – 24). Therefore, in one embodiment, *layer* 13 comprises polyester yarns and *layer* 15, which comprises *lay-in yarns* 26 and *stitch yarns* 19 which can both be elastomeric yarns.

Art Unit: 1771

Rock et al. teaches the use of a generic polyester yarn but does not teach the specific type of polyester used in the composite fabric.

Kimura et al. teaches a knitted crepe fabric made from a multifilament yarn comprising polytrimethylene terephthalate (Abstract).

Since Rock et al. lacks specific disclosure to the type of polyester used, it would have been obvious and necessary to one of ordinary skill in the art at the time the invention was made to use an appropriate polyester such as polytrimethylene terephthalate taught by Kimura, motivated by the expectation of successfully practicing the invention of Rock et al. It should be noted that polytrimethylene terephthalate does not yellow, has excellent elastic recovery and good dimensional stability which would be desirable for garment fabric.

Rock et al. in view of Kimura et al. discloses the claimed invention except that the composite knit has a knitted fabric density ratio from 1.55 to 2.35.

Scholz et al. is directed to a fabric backing for orthopedic support materials. Scholz et al. teaches a fabric with a warp knit construction (column 6, lines 14 – 17). The knit fabric can comprise synthetic microdenier yarns such as polyester (column 7, lines 45 – 55) and elastic stretch yarns such as Lycra and Spandex (column 8, lines 30 – 48). In Example 1, the knitted fabric has about 10 – 25 wales/inch and 5 – 25 stitches/inch (column 7, lines 57 – 67). It is known in the art that the term *courses* is synonymous with the term *stitches*. In one embodiment, the fabric can have 25 courses/inch, or stitches, and 11 – 16 wales/inch, which according to Applicant's formula in claim 1, would result in a knitted fabric density ranging from 1.56 - 2.27.

Art Unit: 1771

Since Rock et al. in view of Kimura et al. lacks specific disclosure to the knitted fabric density ratio of the fabric, it would have been obvious and necessary to one of ordinary skill in the art at the time the invention was made to use an appropriate knitted fabric density ratio to provide strength and dimensional stability such as from 1.55 to 2.35 as taught by Scholz et al., motivated by the expectation of successfully practicing the invention of Rock et al. in view of Kimura et al.

Alternatively, Rock et al. in view of Kimura et al. and Scholz et al. discloses the claimed invention except for the composite knit having a knitted fabric density ratio from 1.55 to 2.35. It should be noted that the knitted fabric density ratio is a result effective variable. For example, increasing the density ratio creates a sturdier and tighter fabric. It would have been obvious to one having ordinary skill in the art at the time the invention was made to create a knit having a knitted fabric density ratio from 1.55 to 2.35, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the current invention, it would have been desirable to have a knitted fabric density ratio from 1.55 to 2.35 in order to provide a soft yet durable fabric desirable for high-performance and stretchable clothing.

3. Claims 1 – 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rock et al. (US 6,116,059) in view of Hirt et al. (US 5,782,935) and Scholz et al. (US 6,159,877).

Rock et al. is directed to a three-dimensional sport medical support spacer fabric (Title).

Art Unit: 1771

Rock et al. teaches a spacer knit comprising a first fabric layer, a second fabric layer and a resilient yarn interconnecting the two layers (Abstract). The spacer knit is prepared by knitting the fabric on a double-needle warp knitting machine (column 1, lines 65 – 67 and column 2, lines 1 – 5). See Figure 1. Rock et al. teaches that the *stitch yarn* 17 and *backing yarn* 25 of the first fabric layer 13 are made of polyester (column 2, lines 37 – 42). Rock et al. also teaches that one or both of the *lay-in yarns* 25 and 26 of *layers* 13 and 15 (column 3, lines 15 – 18). Rock et al. teaches that elastomeric yarn can be added to the stitch yarn of each layer (column 3, lines 20 – 24). Therefore, in one embodiment, *layer* 13 comprises polyester yarns and *layer* 15, which comprises *lay-in yarns* 26 and *stitch yarns* 19 which can both be elastomeric yarns.

Rock et al. teaches the use of a generic polyester yarn but does not teach the specific type of polyester used in the composite fabric.

Hirt teaches a process for coloring polytrimethylene terephthalate fibers (Abstract). In Figure 2, it is shown that more colorant is absorbed by polytrimethylene terephthalate (PTMT) fibers than polyethylene terephthalate (PET).

Since Rock et al. lacks specific disclosure to the type of polyester used, it would have been obvious and necessary to one of ordinary skill in the art at the time the invention was made to use an appropriate polyester such as polytrimethylene terephthalate taught by Hirt, motivated by the expectation of successfully practicing the invention of Rock et al. It should be noted that polytrimethylene terephthalate has better dyeability, especially at lower temperatures, which saves time and money in the fabric processing.

Art Unit: 1771

Rock et al. in view of Hirt et al. discloses the claimed invention except that the composite knit has a knitted fabric density ratio from 1.55 to 2.35.

Scholz et al. is directed to a fabric backing for orthopedic support materials. Scholz et al. teaches a fabric with a warp knit construction (column 6, lines 14 – 17). The knit fabric can comprise synthetic microdenier yarns such as polyester (column 7, lines 45 – 55) and elastic stretch yarns such as Lycra and Spandex (column 8, lines 30 – 48). In Example 1, the knitted fabric has about 10 – 25 wales/inch and 5 – 25 stitches/inch (column 7, lines 57 – 67). It is known in the art that the term *courses* is synonymous with the term *stitches*. In one embodiment, the fabric can have 25 courses/inch, or stitches, and 11 – 16 wales/inch, which according to Applicant's formula in claim 1, would result in a knitted fabric density ranging from 1.56 - 2.27.

Since Rock et al. in view of Hirt et al. lacks specific disclosure to the knitted fabric density ratio of the fabric, it would have been obvious and necessary to one of ordinary skill in the art at the time the invention was made to use an appropriate knitted fabric density ratio to provide strength and dimensional stability such as from 1.55 to 2.35 as taught by Scholz et al., motivated by the expectation of successfully practicing the invention of Rock et al. in view of Hirt et al.

As to claim 1, Rock et al. in view of Hirt et al. and Scholz et al. discloses the claimed invention except for the composite knit having a knitted fabric density ratio from 1.55 to 2.35. It should be noted that the knitted fabric density ratio is a result effective variable. For example, increasing the density ratio creates a sturdier and tighter fabric. It would have been obvious to one having ordinary skill in the art at the time the invention was made to create a knit having a

Art Unit: 1771

knitted fabric density ratio from 1.55 to 2.35, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the current invention, it would have been desirable to have a knitted fabric density ratio from 1.55 to 2.35 in order to provide a soft yet durable fabric desirable for high-performance and stretchable clothing.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rock et al. (US 6,116,059) in view of Hirt et al. (US 5,782,935), Scholz et al. (US 6,159,877) and Morifuji et al. (JP 03-287844 A)

Rock et al. in view of Hirt et al. and Scholz et al. teaches the composite fabric may be constructed as a warp knit, (Rock, column 2, lines 1 – 5), but does not teach the specific type of warp knitting as half tricot stitching.

Morifuji et al. teaches knitted half tricot fabric comprising elastic and non-elastic fibers for sportswear (Abstract).

Since Rock et al. in view of Hirt et al. and Scholz et al. lacks specific disclosure to the type of tricot stitch used, it would have been obvious and necessary to one of ordinary skill in the art at the time the invention was made to use an appropriate tricot stitch such as a half tricot stitch as taught by Morifuji, motivated by the expectation of successfully practicing the invention of Rock et al. in view of Hirt et al. and Scholz et al. It should be noted that half tricot stitches create a tightly knitted fabric with good dimensional stability.

Response to Arguments

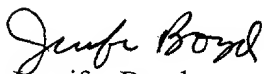
Art Unit: 1771

5. Applicant's arguments with respect to claims 1- 3 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A Boyd whose telephone number is 703-305-7082. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


Jennifer Boyd
August 27, 2003

